

REMARKS

Claims 1-13 and 15-26 are in this application and are presented for consideration. By this Amendment, Applicant has amended claims 1-6, 9-11 and 15-19. Claim 14 has been canceled. Applicant has added new dependent claims 20-26.

Claims 1, 10, 11 and 17-19 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has amended the claims paying close attention to the Examiner's remarks. The means for depositing a substrate refers to a gripper device and the like that transfers the substrate from the storage device to a machine so that the substrate can be further processed. Applicant has amended the stacking area to make it clear that the stacking area refers to the area of a storage element in contact with another storage element in a stacked formation. It is Applicant's position that the claims as now presented are clear and satisfy the requirements of the statute.

Claims 1-4, 8, 12-14, 16, 17 and 19 have been rejected under 35 U.S.C. 102(b) as being anticipated by Abe et al. (JP 20021291759 A).

The present invention relates to a device for storing plate-shaped substrates. The device comprises a tool. A plurality of stacked storage elements are moved so that the tool is an area of a storage element selected to be removed. The tool engages the stacked storage elements such that one contact surface of the tool engages a storage element adjacent to the storage element selected to be removed. The tool is moved so that the

adjacent storage element is moved such that the adjacent storage element is at a spaced location from the selected storage element to be removed and the second contact surface of the tool engages the selected storage element to be removed. The tool with the first contact surface in contact with the adjacent storage element and the second contact surface in contact with the selected storage element is moved such that the selected storage element is at a spaced location from the upper stack of storage elements and the lower stack of storage elements. This advantageously provides a device for simply removing specific individual wafers from the storage device without having to individually remove the wafers above or below it. This advantageously allows storage elements that are consecutively stacked with as little distance between each storage element to be removed quickly and efficiently. The prior art as a whole fails to teach or suggest such features or time efficient wafer removal advantages.

Abe et al. discloses a clam plate 2 which supports each tray 1 for transfer. Each claw plate 2a, 2b is connected with each other by a junction member 3. Each claw plate 2a, 2b is hung by the claw plate 2a at a distance of a predetermined pitch.

Abe et al. fails to teach and fails to suggest the combination of a tool and a means for conducting relative motions between the tool and the stack of storage elements in order to place the tool at any position with respect to the longitudinal direction of the stack of storage elements. At most, Abe et al. discloses an array-pitch apparatus that has storage elements that are interconnected to one another. As such, the storage elements 1 of Abe et al. are only collectively moved with respect to the stack direction to increase or decrease the

pitch by means of actuating a common drive 10a. In contrast to Abe et al., the present invention provides a device for selecting one storage element that is to be removed from a plurality of stacked storage elements. The tool of the present invention is moved such that the stacked storage elements are divided and moved so that the selected storage element can be removed. This advantageously allows a simple and easy way to remove one storage element from a plurality of closely stacked storage elements by increasing the distance between the selected storage element to be removed from an upper stack of elements and a lower stack of elements divided by the tool. Abe et al. fails to disclose such advantages since Abe et al. only teaches moving a stack of connected storage elements interconnected to one another that are moved in groups. However, Abe et al. does not disclose moving a tool with respect to a plurality of stacked elements to contact the stack to remove a selected storage element. As such, the prior art takes a different approach and fails to disclose each feature of the claimed combination. Accordingly, Applicant respectfully requests that the Examiner favorably consider claims 1 and 19 and all claims that respectively depend thereon.

Claim 18 has been rejected under 35 U.S.C. 102(b) as being anticipated by Umesaki et al. (US 6,141,314).

Umesaki et al. discloses an optical disc drive apparatus including a main tray having a stack of subtrays mounted thereon and movable between withdrawn and inserted positions. When the main tray is moved to the inserted position, the subtrays stacked thereon are held at a stand-by position and a selected one of the subtrays is ready to be drawn towards a loaded position so that an optical disc resting on the selected one of the

subtrays can be clamped in position and optically read out. When an optical disc resting on one of the subtrays other than the uppermost subtray then held at the loaded position is desired to be removed or replaced, not only can such one of the subtray be returned from the loaded position to the standby position, the main tray is allowed to withdraw from the inserted position back to the withdrawn position carrying such one of the subtrays and the subtray or subtrays positioned immediately thereabove while leaving the subtray or the subtrays positioned above such one of the subtrays at the standby position, so that such one of the subtrays can readily be exposed to the outside for removal or replacement of the optical disc resting thereon.

Umesaki et al. fails to teach or suggest a transport container having clean room conditions for transporting substrates in a lockable space. At most Umesaki et al. discloses a main tray with subtrays carrying compact discs (CDs) in connection with a disc changing capability of a CD-Rom. However, Umesaki et al. is completely void of any suggestion of a transport container for transporting substrates that are used in the production of electronic parts. In contrast to Umesaki et al., the present invention provides a transport container that has a locking means that seals the transport container to maintain the clean room conditions of the transport container. This is significant in the present invention because it prevents the substrates from becoming contaminated and prevents dust and other contaminants from entering the container. Compared with the present invention, trays used in CD players are completely unusable for maintaining clean room conditions. The tray of Umesaki et al. does not seal the CDs against dust or air of the environment, which contain contaminants that can

damage the CDs. As clearly shown in Figure 1 of Umesaki et al., the tray 1 and the drive housing 2 are open in an area of an upper left edge when the tray is in a closed position. As such, even when the tray 1 is closed and is located within the drive housing 2, the space defined by tray 1 and drive housing 2 is disadvantageously open so that dust and other contaminants can enter the space. According to the present invention, a lockable transport container is provided for maintaining clean room conditions so that the substrates can be used to further processed to produce electronic parts. It is essential that the substrates be free of contaminants when producing the electronic parts. Umesaki et al. is void of any suggestion of a lockable means that seals a transport container to maintain clean room conditions. As such the prior art as a whole takes a different approach and fails to suggest important features of the claimed combination. Accordingly, Applicant respectfully requests that the Examiner favorably consider claim 18.

Claims 5 and 19 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al.

As previously discussed above, Abe et al. does not disclose the combination of a tool and a means for conducting relative motions between the tool and the stack of storage elements in order to place the tool at any position with respect to the longitudinal direction of the stack of storage elements. Further, the part designated reference numeral 10a or 2 of Abe et al. does not disclose a tool as claimed and merely refers to an array-pitch inverter. Abe et al. not disclose the step of contacting a storage element and does not provide a relative motion between a tool and a respective storage element as claimed since the nail

plates 2 always remain in contact with its trays 1. As such, Abe et al. fails to disclose each feature of the claimed combination. Accordingly, Applicant respectfully requests that the Examiner favorably consider claim 19 as now presented.

Claims 6 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al., and further in view of Kato et al. (US 5,752,609). Although Kato et al. teaches a wafer boat that includes a plurality of rods arranged substantially parallel to each other at regular intervals, the references as a whole fail to suggest the combination of features claimed. Specifically, Abe et al. does suggest or teach the combination of a means for moving a tool such that the tool divides a stack of storage elements so that a selected storage element can be removed. The references as a whole provide no suggestion of using the teachings of Kato et al. to modify the array-pitch transfer apparatus of Abe et al. The references together do not suggest the combination of features claimed. One of ordinary skill in the art is presented with various concepts, but these concepts do not provide any direction as to combining the features claimed. All claims define over the prior art as a whole.

Claims 9-11 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al., and further in view of Tanaka et al. (US 2002/0002946). Although Tanaka et al. discloses a processing apparatus for processing a sample such as a substrate, the references as a whole fail to suggest the combination of features claimed. Specifically, Abe et al. does suggest or teach the combination of a means for moving a tool such that the tool separates a selected storage element from a plurality of stacked storage elements. The references

together do not suggest the combination of features claimed. One of ordinary skill in the art is presented with various concepts, but these concepts do not provide any direction as to combining the features claimed. All claims define over the prior art as a whole.

Applicant has added new dependent claims 20-26 to clarify the features of the invention. Applicant respectfully requests that the Examiner favorably consider new dependent claims 20-26.

Favorable action on the merits is requested.

Respectfully submitted
for Applicant,



By: _____
John James McGlew
Registration No. 31,903
McGLEW AND TUTTLE, P.C.

- and -



By: _____
Brian M. Duncan
Registration No. 58,505
McGLEW AND TUTTLE, P.C.

JJM:BMD

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Attached: Petition for Two Month Extension of Time

DATED: October 3, 2007
 BOX 9227 SCARBOROUGH STATION
 SCARBOROUGH, NEW YORK 10510-9227
 (914) 941-5600

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